

Ope

INSTALLATION AND SERVICE MANUAL

WANAS BLACK 200V

WANAS BLACK 300V

DISPLAY V3



Table of contents

1. GENERAL INFORMATION	3
1.1. Purpose of the device	3
1.2. Delivery	3
1.3. Safety	3
1.4. Dimensions of the devices	5
1.5. Characteristics.....	6
2. INSTALLATION.....	7
2.1. Condensate drainage	7
2.2. Assembly of the device	8
2.3. Installation location	8
2.4. Change to the "left" version.....	9
2.5. Installation of the room panel	10
3. RECUPERATOR OPERATION.....	11
3.1 Operation via SCP room panel	11
3.2 Operation via mobile app (first launch)	12
3.3 Remote operation of the recuperator - via a web browser.....	15
3.4 Time modes.....	17
3.5 Bypass	17
3.6 Software update	17
4. INSPECTIONS AND MAINTENANCE.....	18
5. CONSTRUCTION OF THE AIR HANDLING UNIT	18
6. WIRING DIAGRAMS	19
6.4 Diagram of connections of additional elements to the air handling unit.....	20
7. MODBUS RTU	20
8. DISMANTLING OF THE EXCHANGER	23
WARRANTY CARD	24

1. GENERAL INFORMATION



1.1. Purpose of the device

Recuperator is used for ventilation of apartments, single-family houses and offices. Fresh and filtered air is supplied to the rooms of the so-called "clean" rooms, living room, bedrooms, and the used air is extracted from the so-called "dirty" rooms, bathrooms, laundry rooms, kitchens and dressing rooms.

Continuous air exchange provides better home comfort and removal of moisture from the building with simultaneous heat recovery.

The unit is equipped with an automatic bypass, which is mainly used in the summer at night, where the supplied cool air does not pass through the exchanger but is delivered directly to the rooms causing improved comfort in the building.

As standard, each recuperator is equipped with a wall controller. Using the built-in Wi-Fi module, the device can be connected to the Internet and controlled remotely. The design and manufacture of the product is based on harmonized standards.

If you are going to dispose of this product, do not remove it with ordinary household waste. According to the WEEE Directive (Directive 2002/96/EC) in effect in the European Union, separate disposal methods must be used for used electrical and electronic equipment. For more information on recycling waste from this Product, contact the municipal authorities in your area, with the relevant garbage disposal service.	
The manufacturer declares the compliance of the product with the LVD Directive 2006/95/EC, concerning electrical equipment operating within a certain voltage range. The product was labeled as a result of the conformity assessment procedure.	

1.2. Delivery

Each unit is delivered packaged with: controller, recuperator hanging bracket, dowels for mounting the bracket and siphon.

1.3. Safety

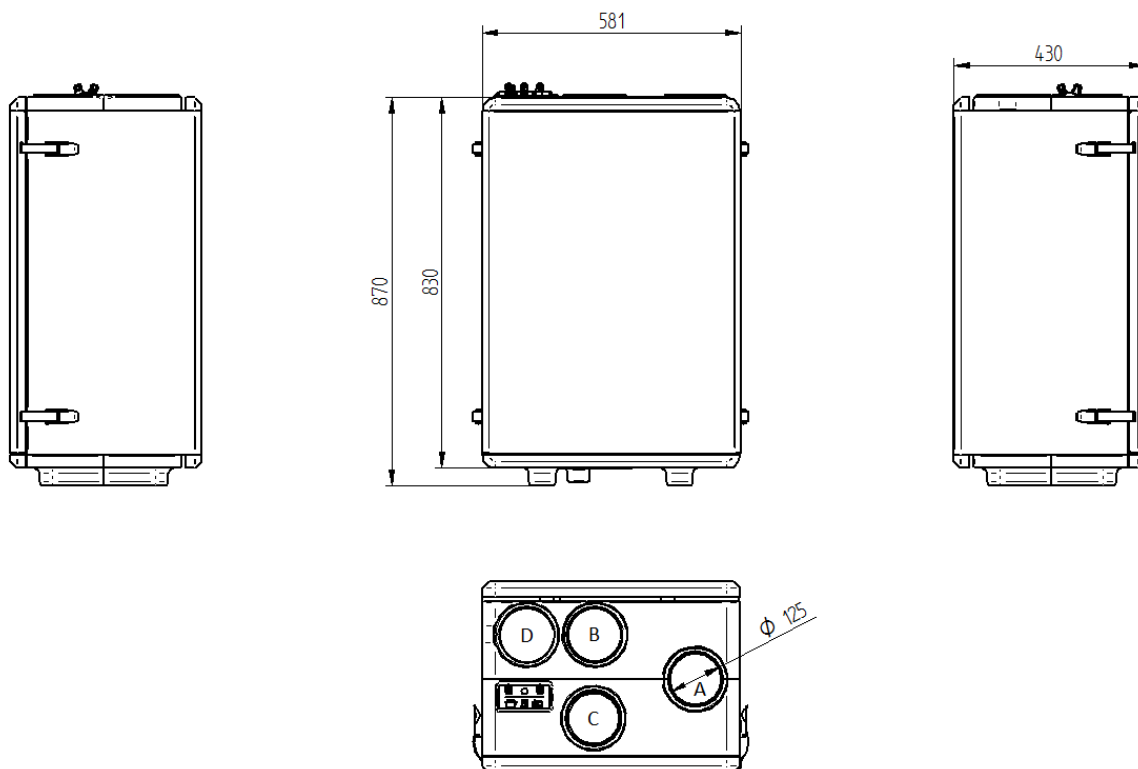


The manufacturer assumes no responsibility for any damage caused by improper installation and use of the product contrary to its intended use and these operating instructions, and the resulting damage **cannot be the basis for warranty claims or repairs.**

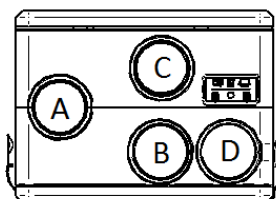


- Installation of the device should be carried out by **qualified** persons.
- The device may be operated **only by adults** who have read the operating instructions.
- **It is forbidden to install** the device in an installation that is not equipped with a working protective conductor and residual current protection.
- **It is forbidden to mount the controller below the recuperator.**
- The electrical system to which the device is connected **must be equipped** with surge protection.
- The control panel should be installed in a place where the temperature is within the range of **5°C and 45°C**. Too low ambient temperature can result in condensation on the housing of the device and, consequently, its failure.
- **It is forbidden to turn on** the device in a building where construction work is being carried out.
- The siphon should be attached to the recuperator. Do not allow it to be damaged. **A damaged drain may lead to water leakage and flooding of the control panel.** The room in which the device is located should be equipped with a drain located in the floor. Do not place other electrical appliances and electronic under or near the recuperator.
- After replacing the filters, check that they are properly inserted and that the door is properly closed.
- Maintenance operations and filter replacement should be carried out when **the device is switched off** from the 230 V mains.
- After maintenance work, **always** make sure that all drainage connections are tight. The water supply should be checked regularly.
- If there is a water leak, stop using the device and disconnect it from the electricity supply. Then contact the **Wanas service**.
- The manufacturer waives any liability for damages caused by direct or indirect acts of people or animals, resulting from non-compliance with this manual, in particular with the notes on installation, operation and maintenance of the device.

1.4. Dimensions of the devices



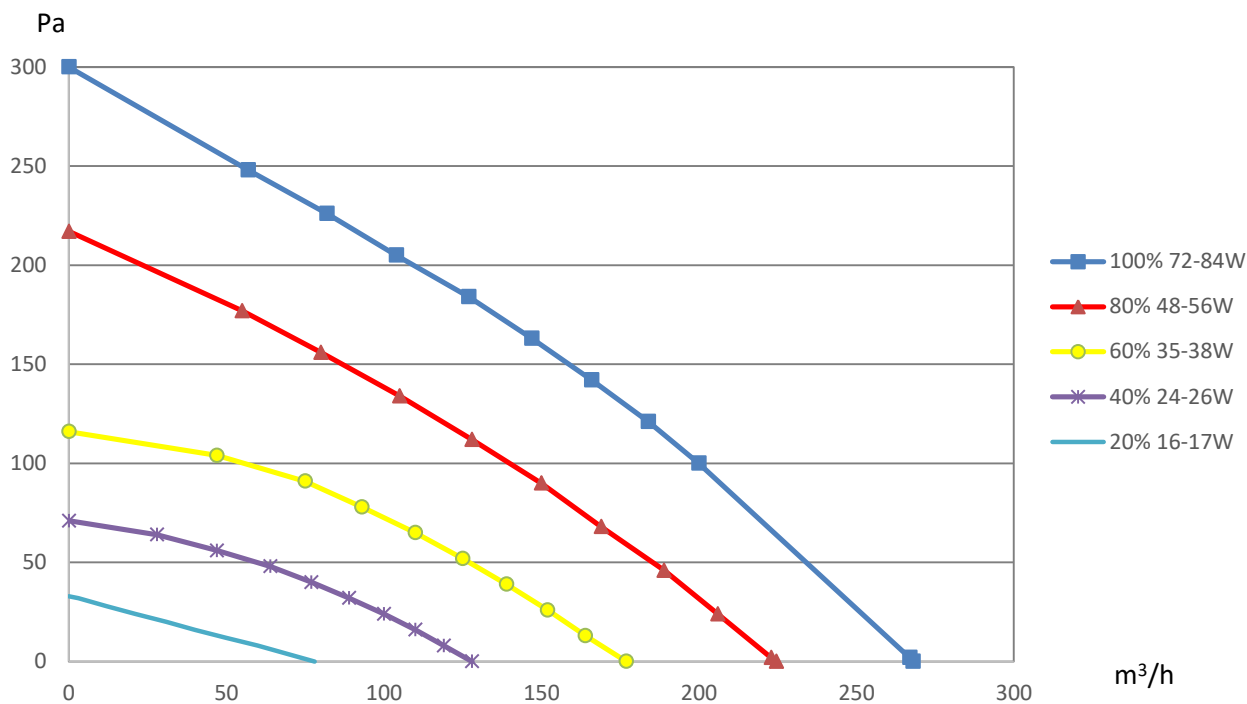
- A - air drawn from outside the building
- B - air drawn from the premises
- C - air supplied to premises
- D - air released outside the building



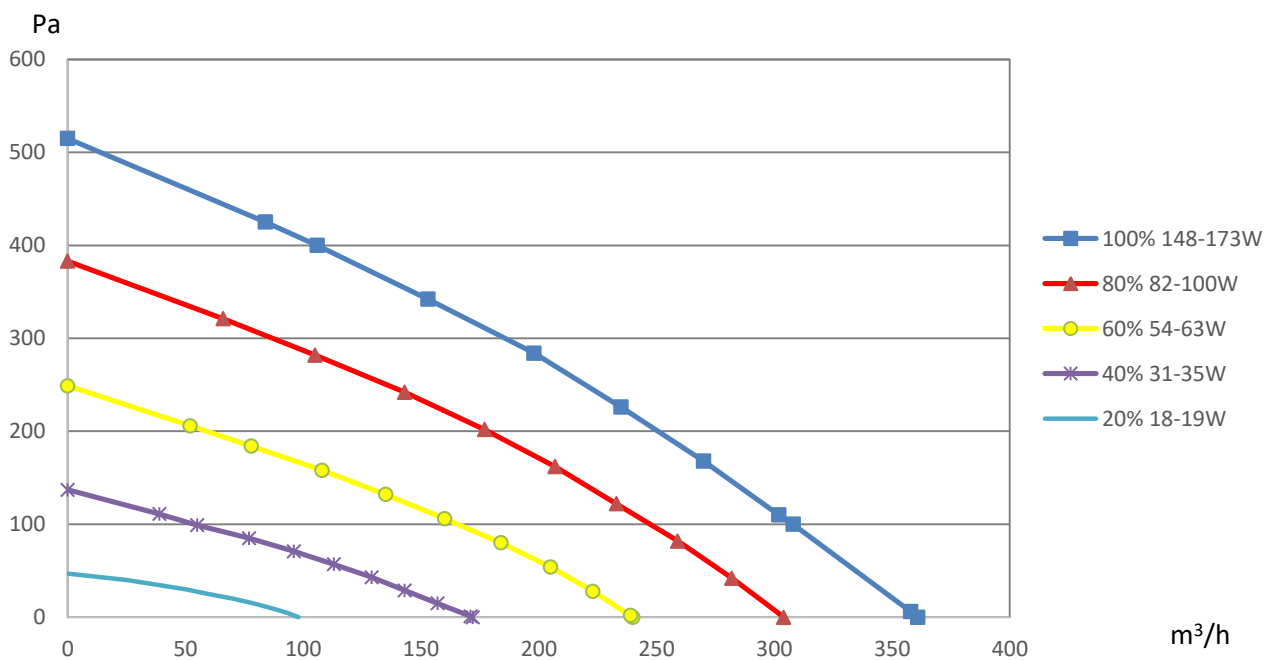
LEFT VERSION

1.5. Characteristics

Compression/Efficiency - WANAS BLACK 200V



Compression/Efficiency - WANAS BLACK 300V



2. INSTALLATION

2.1. Condensate drainage

At low temperatures in the air handling unit, condensation occurs on the exchanger from the air removed from the building. For condensate drainage there is a spigot located in the bottom of the control panel. The air handling unit should be located in a place where the temperature is always above zero, e.g. so as not to cause the condensate drain to freeze. The drain should be connected to the siphon according to the figure below.

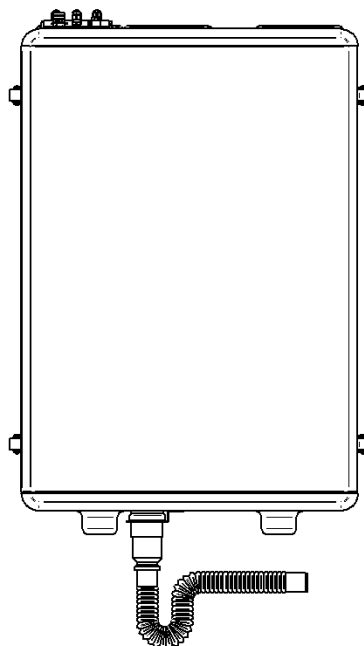
For proper condensate drainage, the unit must be leveled with the screws on the back of the unit.



The connection of the siphon to the air handling unit should be airtight, i.e., the air handling unit must not be able to draw air from the room in which it is located through the drain pipe. The siphon should be filled with water before the first startup.



Improper connection of the control panel to the siphon can lead to flooding of the control panel or the room, for which the manufacturer is not responsible.

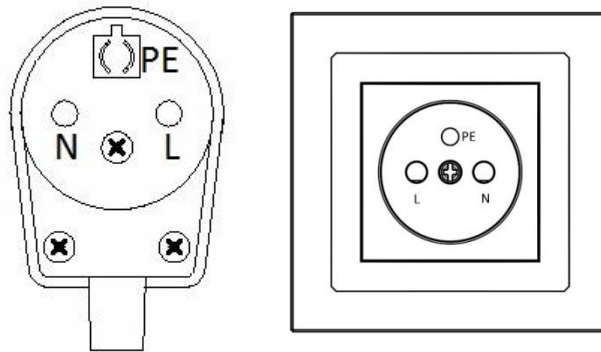


2.2. Assembly of the device

Installation of the device and performance adjustment is the responsibility of the installer and should be carried out **only by a qualified person** with the appropriate authorization. Installation of the device and capacity adjustment should be in accordance with applicable regulations.



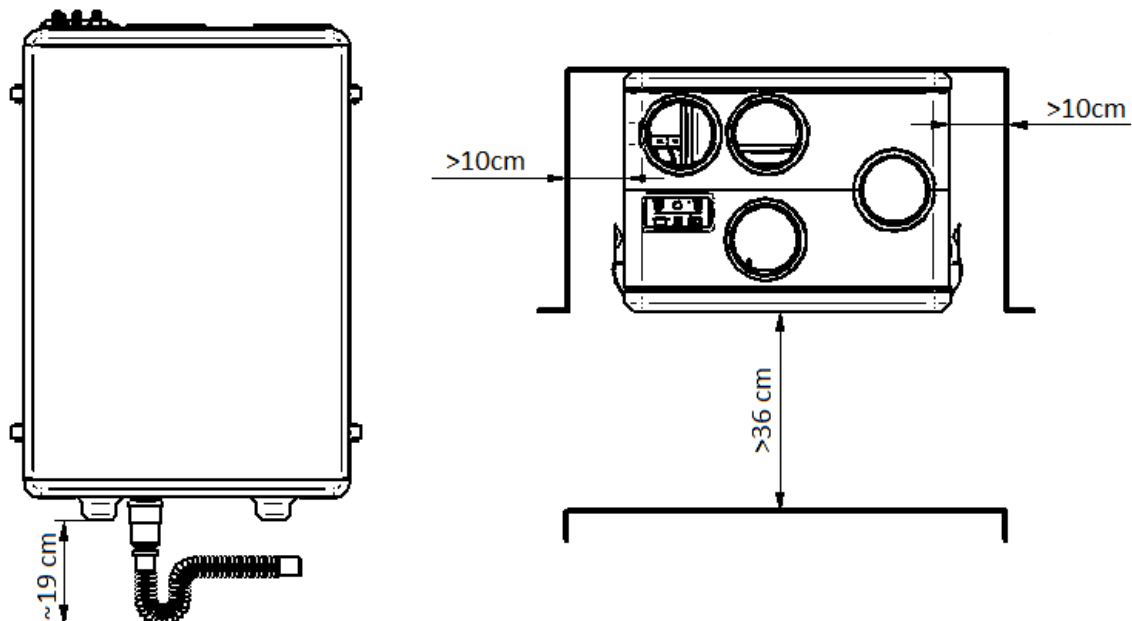
NOTES: The power cord should be connected according to the diagram. Connection other than in the diagram will cause malfunction or damage to the device.



2.3. Installation location

The device can be installed in utility rooms, boiler rooms, garages and attics where the temperature is between **5°C and 45°C**. Installing the device where the temperature drops below freezing will cause the condensate to freeze and cause the device to malfunction or be damaged.

The recuperator should be installed so as to provide access to it for maintenance and service.





Using mechanical ventilation in the rooms where the fireplace will be installed requires the user to install a fireplace with a closed combustion chamber (air can only be drawn from outside the building) and a carbon monoxide detector. It is forbidden to install a fireplace with air intake from the room.



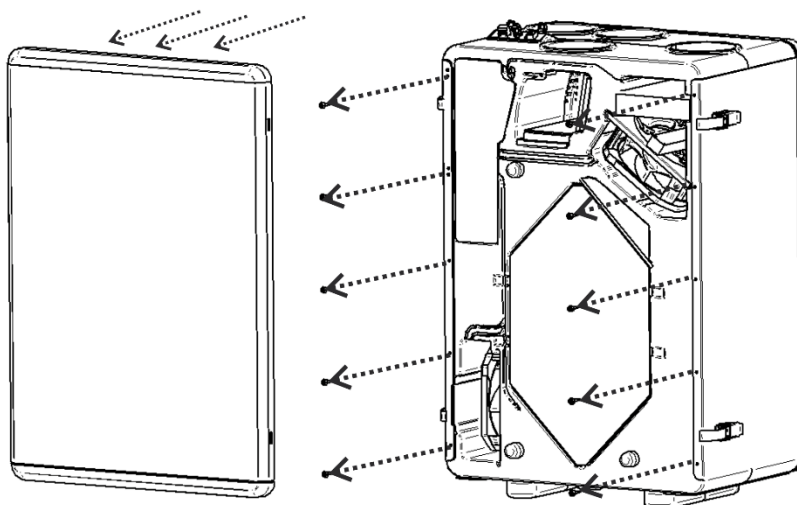
It is forbidden to turn off the air handling unit during the winter if it is installed in the attic. Turning off the air handling unit may cause condensation on the walls of the air handling unit and on the fans.

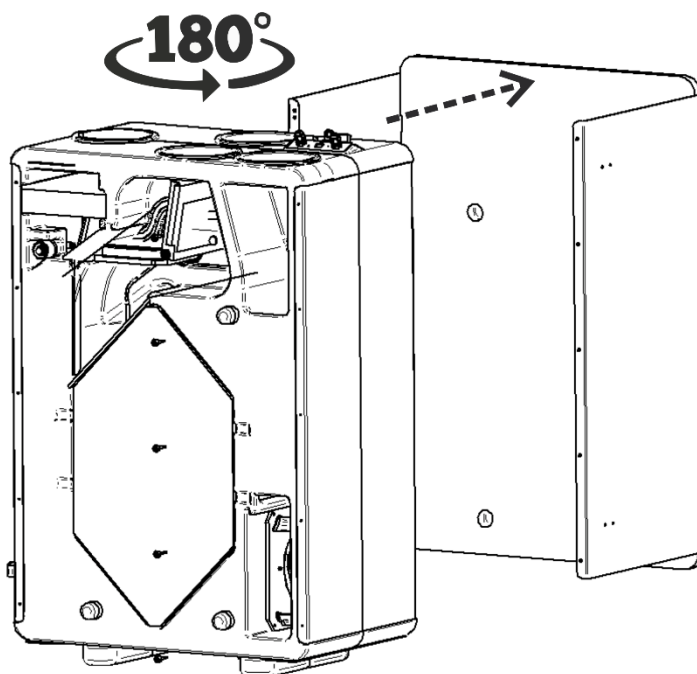
2.4. Change to the "left" version

The device can be modified by rotating the housing relative to the body to obtain a more convenient distribution of the connection ports - the so-called left-hand version (see section 1.4).

- Remove the recuperator door by unfastening the side fasteners;
- Remove the 10 screws connecting the body to the housing;
- Remove the housing;
- Rotate the body of the recuperator 180° relative to the housing;
- Mount the housing;
- Tighten the 10 screws connecting the recuperator to the housing;
- Install the recuperator door.

After changing to the "left" version, access to the controller is more difficult. Before changing the version, connect all additional wires to the controller.



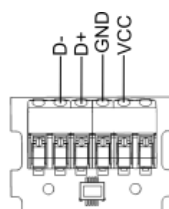
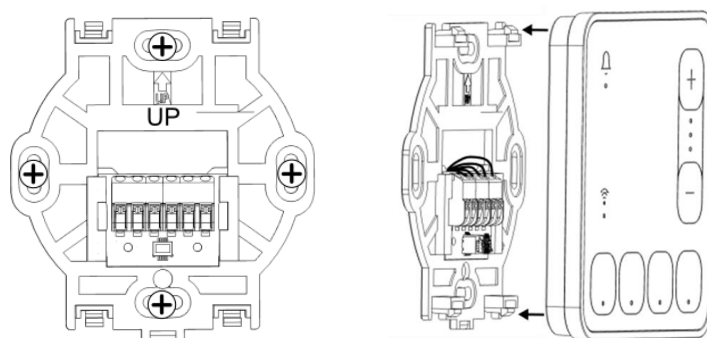


2.5. Installation of the room panel

The room panel is designed to be mounted on the wall, only in a dry room. The panel cannot be used in conditions where steam condensation occurs. It should be protected from water and not placed directly under the air handling unit.

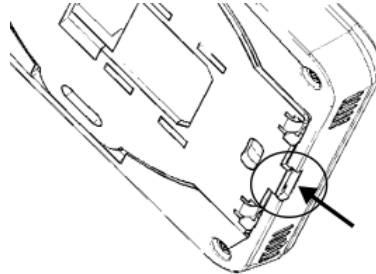
Installation of the panel should be carried out in accordance with the following guidelines.

Disconnect the mounting frame from the rear panel housing. The frame is attached to the panel housing with snaps. A flat screwdriver can be used to detach the frame. Connect the wires of the transmission and power cable connecting the panel to the recuperator to the panel terminals. The cable connecting the panel to the recuperator should be recessed into the wall. The cable connecting the panel to the recuperator should not be installed together with the cables of the building's electrical network. The cable should also not run near devices that emit strong electromagnetic fields. Drill holes in the wall and use screws to fix the mounting frame in the desired place of the wall, keeping it in the correct position (UP). Then attach the panel to the mounting frame using the snaps.



When the recuperator is powered on, the button LEDs on the SCP room panel turn on in sequence, indicating that the software is loading. It takes about 10 seconds to load. If this time is much longer, check the correct connection of the D+, D- wires of the transmission cable connecting the panel to the recuperator.

Panel Removal.



To detach the panel from the mounting surface, insert a flat piece such as a screwdriver into the indicated slot of the mounting frame. This will unfasten the mounting frame latches and allow the panel to be detached.

3. RECUPERATOR OPERATION

The recuperator can be operated through:


- SCP room panel - quick access to selected functions;
- ecoNEXT application - via Bluetooth - first startup and adjustment;
- Web browser - remotely - via the Internet and WiFi network - for the user.


3.1 Operation via SCP room panel





Operation of the basic functions of the recuperator is carried out by touching the selected function button of the SCP room panel. Upon activation of the recuperator, the ventilation intensity is carried out according to the schedule (default gear 1), which can be freely configured via the ecoNEXT app (Bluetooth) and via the econetcloud.eu website (WiFi). After pressing the button on the SCP room panel, the air handling unit enters the operation mode corresponding to the selected time function and then returns to schedule operation.


Button symbols and LED indications have the following meanings:


 - switching the SCP room panel between Bluetooth/WiFi modes by holding 5sec (all LEDs will light up).


 - switching off the operation of the air handling unit for 60 minutes (LED on).

 - turning on the fireplace function for 3 minutes (LED on).


 - activation of the party mode in the range of 15 - 180 minutes (LED on). If the parental lock is active, the panel can be unlocked by holding down the button for 5 seconds.

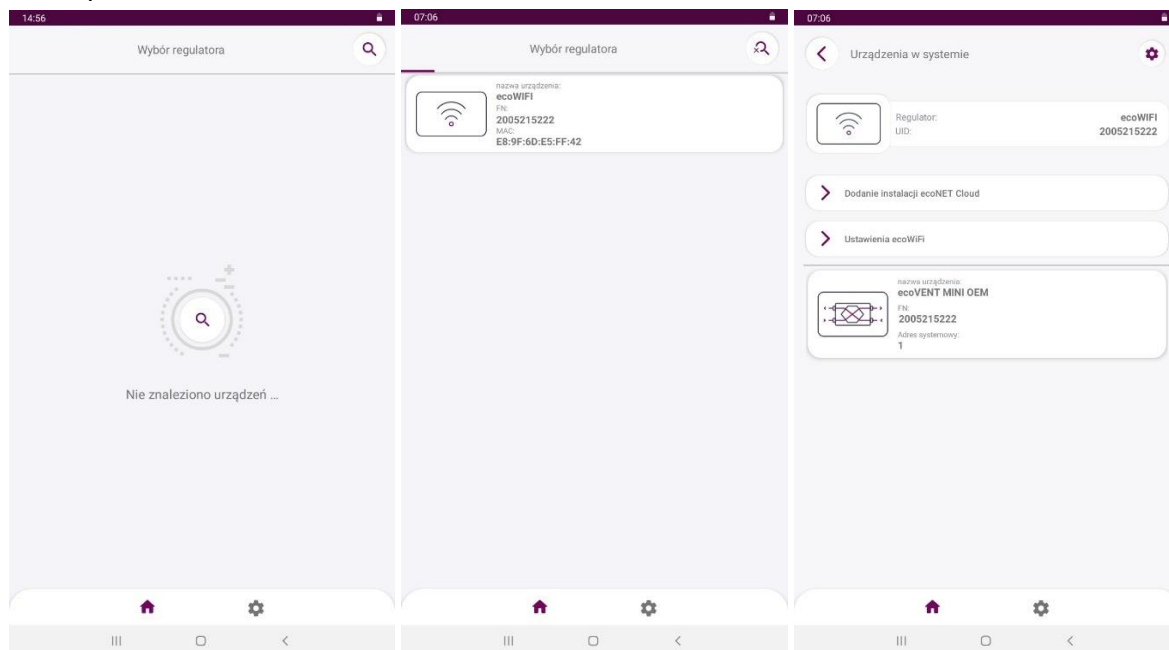
 - increase or decrease of the operating time of the party mode.

 - signaling active notifications from the air handling unit, e.g., replace filters.

 - active connection via Bluetooth or via WiFi to the Internet service.

3.2 Operation via mobile app (first launch)

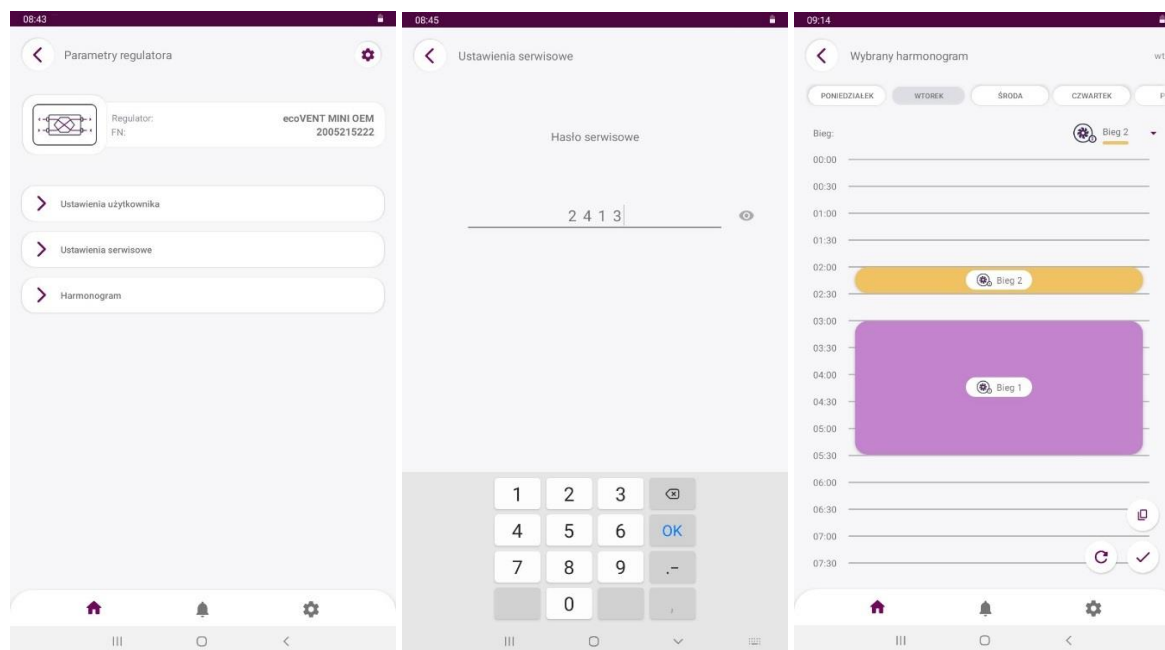
The ecoNEXT app for Android allows full operation and configuration of the recuperator via Bluetooth. The [ecoNEXT.apk](#) mobile app can be downloaded from www.wanas.pl. It works in Android system, from version 8.0. After downloading the application, give the necessary consents and proceed with the installation. After installing the app, turn on Bluetooth and location data (GPS) and run the app. Also, make sure that the SCP room panel is in Bluetooth communication mode, as indicated by the rapidly flashing LED of the Bluetooth / WiFi mode selection button . After launching the application, find the SCP room panel and select it.



Adding ecoNET Cloud installation - a guide that allows **users** to easily create their account on www.econetcloud.eu and operate the recuperator remotely via a web browser.

EcoWiFi settings - SCP room panel settings. We can enter WiFi network data, generate the password (token) needed to assign the recuperator to a user account on econetcloud.eu, synchronize the time on the recuperator with the phone, set the brightness of the LED lights, enable parental lock and set the volume of the sound of buttons and notifications.

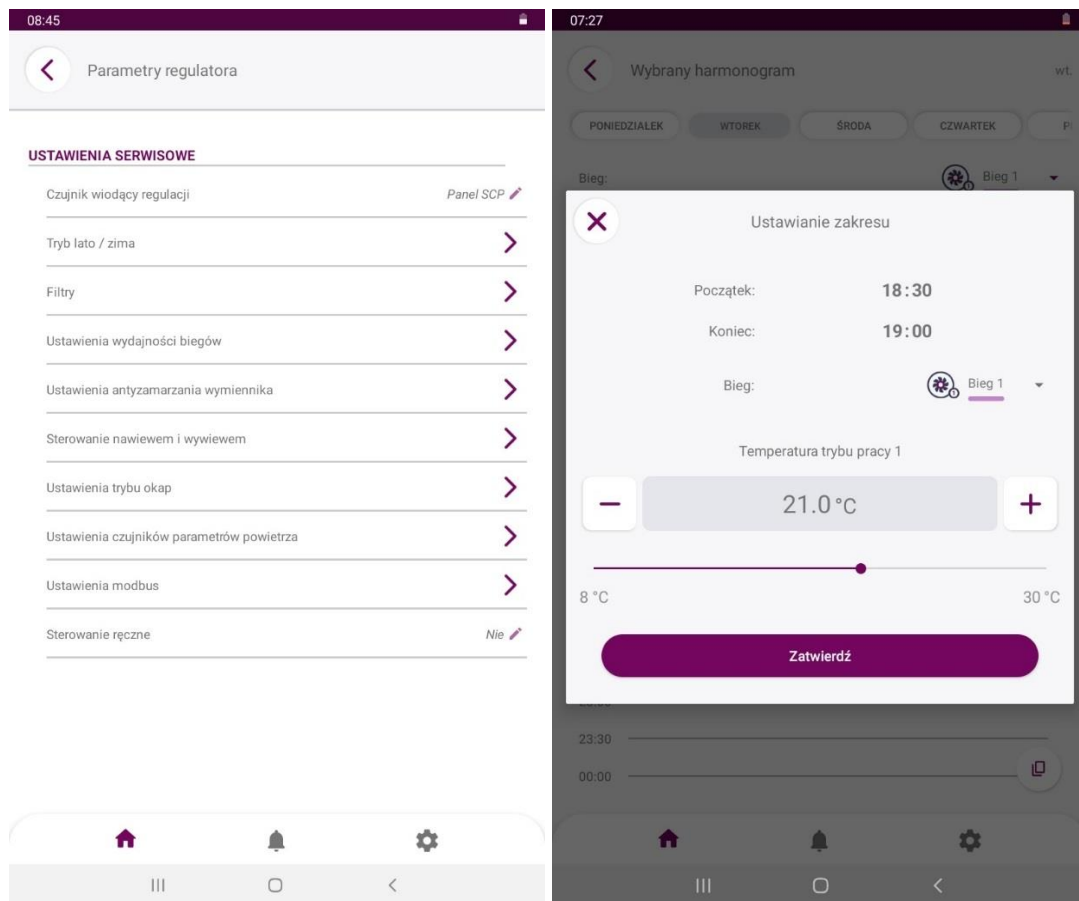
ecoVENT MINI - go to the recuperator settings - **installer** - first startup.



User settings - settings of the comfort temperature to which the recuperator strives, information about the current state of recuperator operation, and activation and deactivation of the bypass damper.

Schedule - settings of fan performance according to the hour and day of the week.

Service settings - settings for the installer, protected by the service password 2413.






	Installer menu parameters
Lead sensor for regulation	The sensor on the basis of which the function of reaching the comfort temperature is implemented.
Summer/winter mode	The menu contains configuration parameters for summer and winter period detection.
Activation of winter mode	Temperature below which the control unit will go into winter mode
Switch-on hysteresis for summer mode	A value that determines by how much the temperature must rise from the "winter mode switch-on temperature" for the control panel to switch to summer mode.
Filters	The menu includes options related to replacing air filters.
Gear settings performance	setting the efficiency at each gear in percent or m3/h. The capacity should be adjusted according to the volume of the building, the characteristics of the rooms and the number of residents. Gear factory settings can be changed according to demand. The settings should be made with the assumption that Run II is to provide optimum ventilation performance, Run III to ventilate the building and Run I to provide minimum performance when the occupants are away.
Exchanger antifreeze settings	Settings related to the settings for the exchanger frosting prevention system.
Operation of exchanger defrosting	Switching on or off the exchanger defrost function. The antifreeze algorithm should always be enabled.
Initial fan settings	The parameter allows to specify the start settings of fans during antifreeze.
Using a pre-heater	Activation or deactivation of the preheater.
Changing the speed of the supply fan	Changing the speed of the supply fan during the antifreeze function of the exchanger.
Antifreeze activation temperature	Below the level of the outside temperature, the system begins to control and regulate the operation of the air handling unit so that the exchanger does not freeze. For new buildings where humidity is high, it is recommended to set the activation temperature at 0°C to -3°C. Once the building is dry the temperature can be lowered.
Supply and exhaust control	Set the control mode for supply and exhaust fans.
Type of adjustment	<ul style="list-style-type: none"> - <i>Standard</i> - percentage control of fan power. - <i>Constant flow</i> - automatic fan speed control to maintain a constant flow rate separately for supply and exhaust. Differential pressure sensors are required.
Hood mode settings	Fan power settings in hood mode. Settings of the logical state of the canopy input.
Air sensor settings	Settings related to the operation of the humidity sensor built into the SCP room panel.
Humidity sensor	The menu contains settings related to the operation of the analog humidity sensor.
Modbus settings	Settings related to Modbus communication. Set the <i>Modbus Address</i> and the preferred <i>Baud Rate</i> (9600, 19200, 115200), <i>Number of stop bits</i> and <i>Parity</i> .
Modbus address	Modbus address related settings.


Transmission speed	Transmission speed for Modbus communication.
Number of stop bits	Settings for the number of stop bits.
Parity	Checksum parity settings.
Activating Modbus	Enable and disable support for the Modbus protocol.
Edit parameters	Permission to edit parameters with Modbus protocol.
Controlling the control panel	Permission to control the air handling unit via Modbus protocol.
Manual control	Manual control allows manual setting of individual relay outputs. Attention: Use this menu with caution and consciously switch on the outputs so as not to damage the air handling unit.


3.3 Remote operation of the recuperator - via a web browser


To use remote operation of the recuperator via the Internet, it is required to connect the SCP room panel to the Internet via WiFi.


Configure the connection to the WIFI network according to the following guidelines:

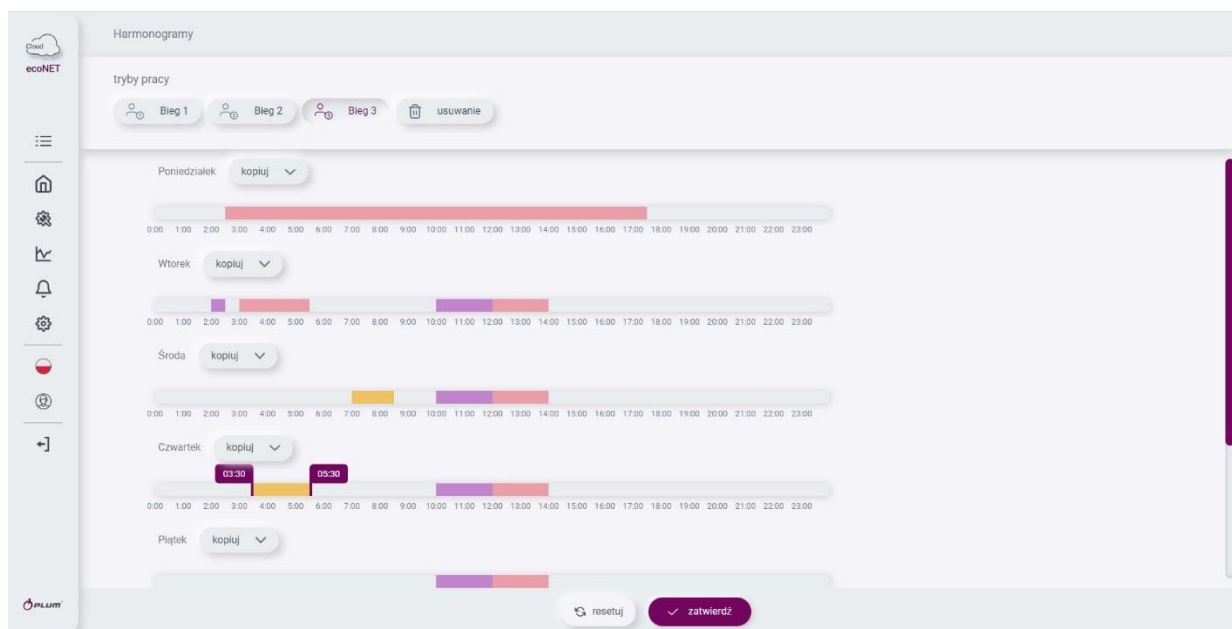
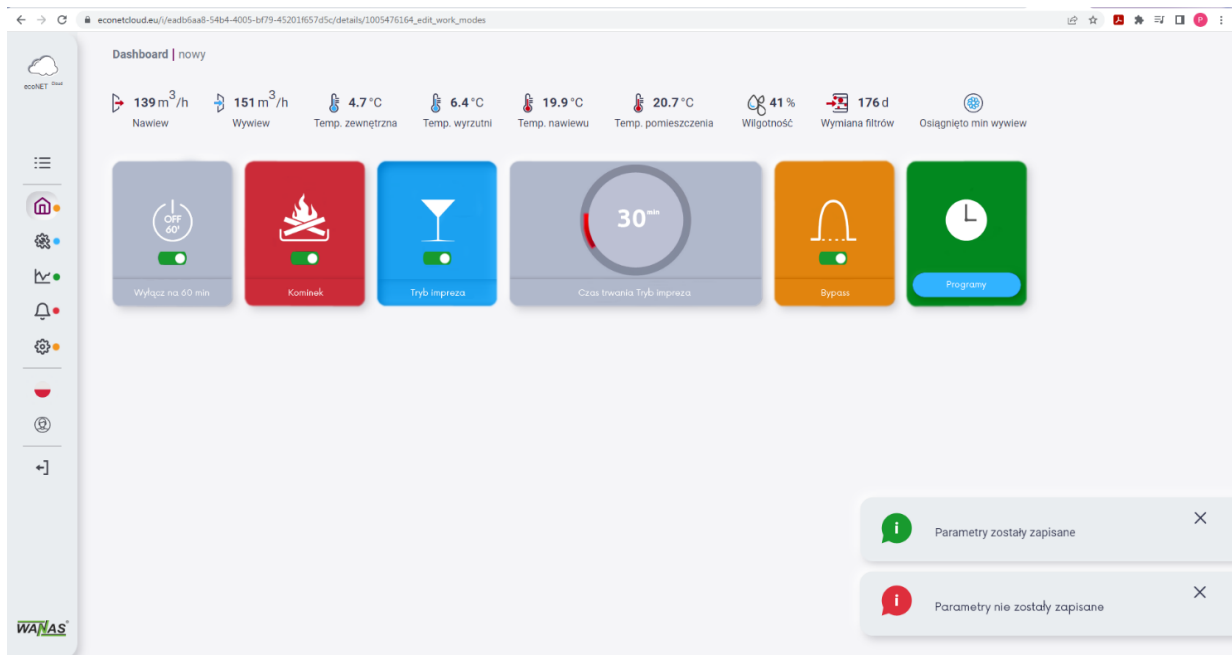
1. Ensure that the SCP room panel is in Bluetooth connectivity mode - the LED of the  button should flash rapidly. Otherwise, hold down the  button of the room panel for about 5 seconds to enable the Bluetooth function. After several seconds, the SCP room panel will restart and the Bluetooth function will turn on.
2. Install the dedicated mobile application [ecoNEXT.apk](#) and run it on the mobile device, activate Bluetooth. The application can be downloaded from www.wanas.pl. The app also requires GPS location to be enabled.
3. In the mobile app, search for a recuperator to connect and confirm this connection.
4. Use the guide "Adding ecoNET CLOUD installation" according to the following steps.
5. After completing WiFi configuration in the mobile application, switch the SCP room panel back to WiFi mode, to do this, hold down the button  of the panel for about 5 sec.
6. Wait several seconds until the SCP room panel restarts and the Bluetooth function is turned off and the WiFi function is turned on, where:



- if the LED of the  button lights up continuously, this indicates an active connection to the WiFi network and to the Internet service,





- if the LED of the  button does not light up, there is no connection to the WiFi network. Verify that the login credentials of the local WiFi network are correct.


- if the LED of the  button flashes (slower than when Bluetooth is active), it means that there is a connection to the WiFi network, but there is no access to the Internet service. Internet access should be checked.


7. Go to the parameter *Add web service installation* and on the side, left bar select the parameter *Settings* .
8. Press "+ Add component" to add the recuperator to the installation. Adding a recuperator will display tiles for configuring and operating the recuperator on the first page of the website.



 **21 %**  **20 %**
 Nawiew Wywiew - current fan speed;

 **20.7 °C**  **21.0 °C**  **23.9 °C**  **26.0 °C**
 Temp. zewnętrzna Temp. wyrzutni Temp. nawiewu Temp. pomieszczenia - current temperature;

 **49 %**
 Wilgotność - current humidity;

 **174 d**
 Wymiana filtrów - remaining number of days to replace filters.

The settings and functions are the same as described in Section 3.2.

3.4 Time modes

The air handling unit operates according to a weekly program, but higher priority is given to time modes, such as party, fireplace. When the timed mode is over, the control panel returns to the weekly program.

- *Shutdown mode for 60min.*: stops the operation of the air handling unit, this mode can be used, for example, for the time when residents leave the building.

- *Party mode*: activation forces the control panel to work in gear III for a certain amount of time.

This mode can be used, for example, when there are more people in the room.

- *Fireplace*: if this function is enabled then the supply fan control will be changed to maximum capacity, and the exhaust fan will be turned off for 3 minutes. This is to temporarily create positive pressure in the building, so that when the fireplace is operated, smoke does not escape into the room.

3.5 Bypass

Bypass - is used to cool rooms at night in summer, when the house is hot and the outside temperature is lower at night. When the bypass is open, the air bypasses the exchanger and the cool air is directly fed into the rooms. It opens when the outdoor temperature is lower than the indoor temperature and if the summer mode is active. During the summer, for improved comfort, it is recommended to activate bypass in the main menu, at www.econetcloud.eu.


- *Winter mode* - the temperature value (default 6 degrees), below which the winter mode will be activated.
- *Hysteresis on summer mode* - the value of hysteresis of mode change (default 14 degrees), if the outside temperature rises above the *activation of winter mode* + *Hysteresis on summer mode*, the summer mode will be activated. In summer mode, it is possible to operate the bypass and GWC in cooling mode.

3.6 Software update

The software update for both the SCP room controller and the recuperator motherboard should be done through the service www.econetcloud.eu. In the "Installation settings" tab, you will find an icon that indicates the availability of a newer version of the software. The update will be automatically downloaded and installed on the controller. The process does not cause loss of saved settings.

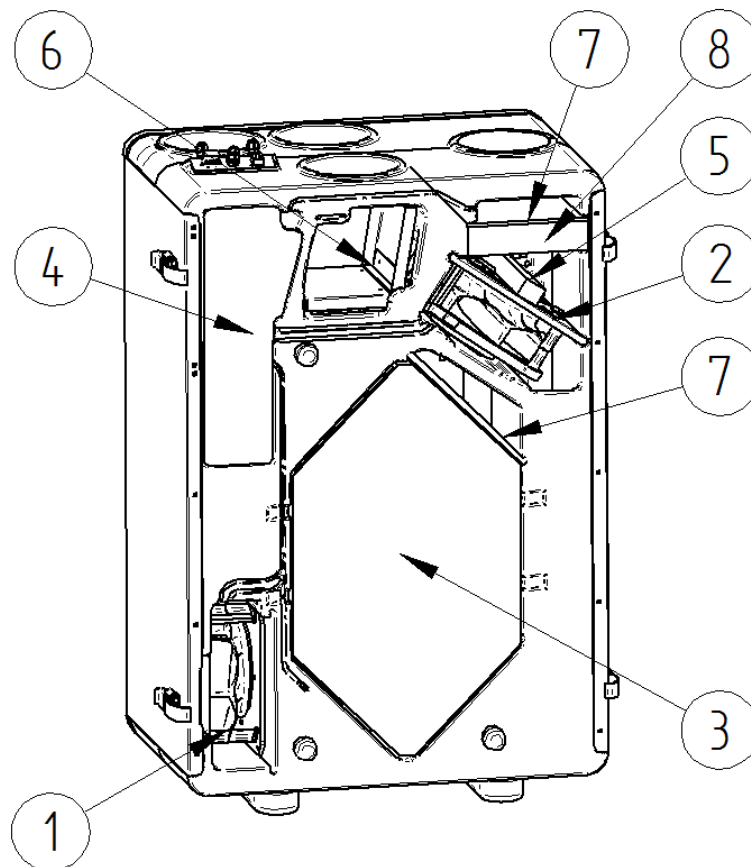
4. INSPECTIONS AND MAINTENANCE

Maintenance work should be performed with the control panel disconnected from the power supply. Maintenance of the air handling unit comes down to replacing filters and checking the condition of the external air intake. The filters are recommended to be replaced every 180 days. On the other hand, they should be vacuumed every 90 days. Filters that are too dirty can cause louder and less efficient operation of the air handling unit. Periodically, twice a year, check the impurities of the system's external intake vents.

The water level in the trap should also be checked during the summer season. Information on the number of days left to replace the filters can be found at econetcloud.eu. In addition, the need to change the filters is indicated by an LED  on the room controller.

After replacing the filters, reset the counter of days to replace the filters at econetcloud.eu.

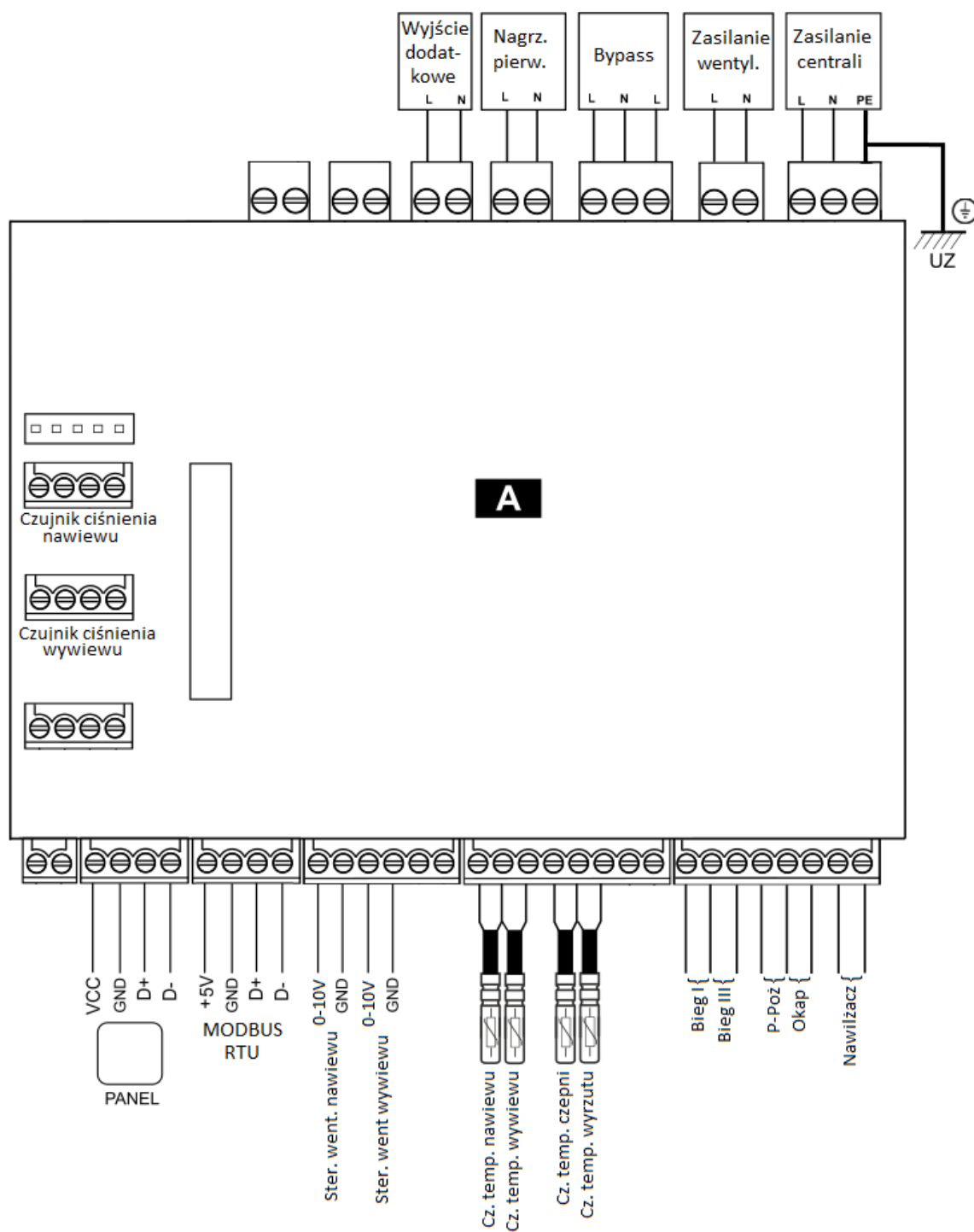
5. CONSTRUCTION OF THE AIR HANDLING UNIT



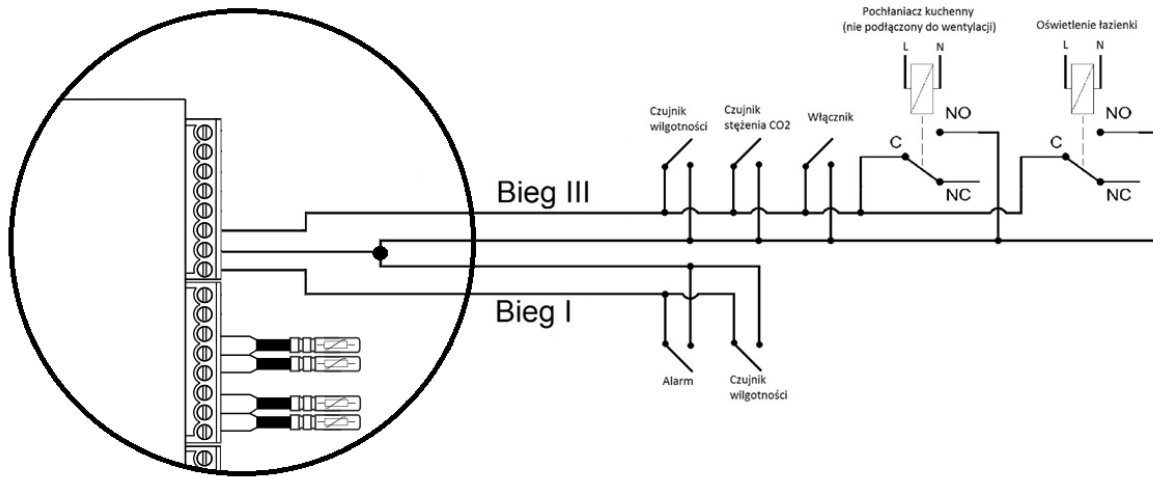
1. Exhaust fan
2. Supply fan
3. Heat exchanger
4. Control
5. Preheater
6. Bypass
7. ISO COARSE 75% air filter
8. Epm air filter 10 50%

6. WIRING DIAGRAMS

Electrical diagram of the controller board



6.4 Diagram of connections of additional elements to the air handling unit



Automatically, when the contacts of Gear I or Gear III are shorted, the control panel changes its output accordingly.

7. MODBUS RTU

The recuperator has a built-in software module that allows communication using the Modbus RTU protocol. This protocol allows reading a register / group of registers containing the current values of parameters and write values to selected parameters. The recuperator supports three Modbus commands: read command **0x03**, single register modification command **0x06** and register group modification command **0x10**. Communication is carried out on the recuperator's isolated port (COM3 ISO), which is a slave port.

Default data transmission parameters:

Speed: 115200 b/s

Parity bit: none

Data bits: 8

Stop bit: 1

Address of the controller: 1

The following table contains a complete list of Modbus parameters of the controller. The table is correct for programs S001.02 and later.

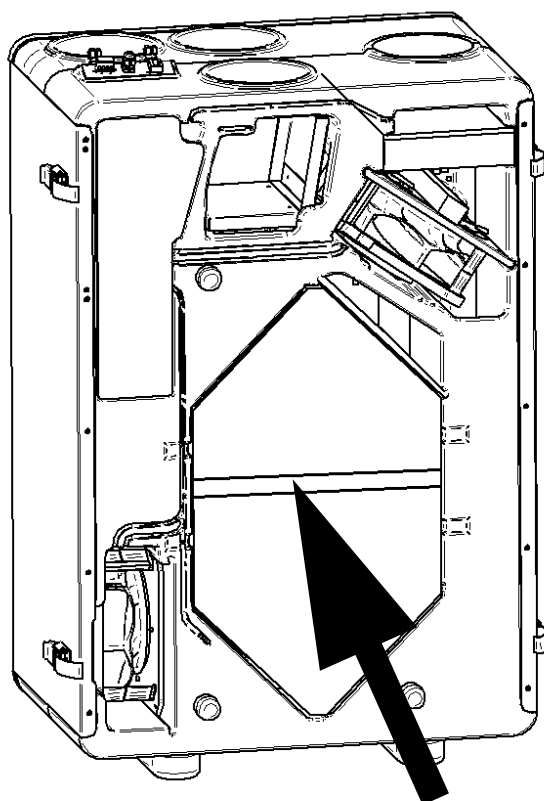
BMS Index	Modbus address	Variable name	Description	Signal type	Min.	Value Max.	Def.	Variable type	Remarks
1	0	Program version	Program series	O	0	0xFFFF	0	hex	Format: SXXX.YYY XXX - older byte, YYY - newer byte
2	2	STATUS_OK	Work status	O	0	1	1	integer	
	3	EMERGENCY	Status failure	O	0	1	0	integer	
	4	WORK_MODE	Recuperator gear	O	0	6	3	integer	3 - gear1, 4 - gear2, 5 - gear3,
	5	Tmain	Lead sensor	O	0	2	0	integer	0 - exhaust sensor, 1 - air supply sensor, 100 - panel sensor
	6	Tsup	Supply temperature (T1)	O	-40.0	60.0	0.0	integer	999 - if sensor failure
	7	Texh	Exhaust temperature (T2)	O	-40.0	60.0	0.0	integer	999 - if sensor failure
	8	Tinl	Intake/outside temperature (T3)	O	-40.0	60.0	0.0	integer	999 - if sensor failure
	9	Tout	Temperature of the launcher (T4)	O	-40.0	60.0	0.0	integer	999 - if sensor failure
	10	Trec	GWC temperature (T15)	O	-40.0	60.0	0.0	integer	999 - if sensor failure
	11	Theat	Temperature behind the secondary heater (T16)	O	-40.0	60.0	0.0	integer	999 - if sensor failure
	12	Tpanel	Temperature of the main panel	O	-40.0	60.0	0.0	integer	999 - if sensor failure
	13	Q1-limit	Air quality sensor (Q1- 0/1)	O	0	1	0	integer	0 - open contact 1 - shorted contact
	15	TR1	Preheater thermostat (N1)	O	0	1	0	integer	0 - open contact 1 - shorted contact
	16	TR2	Secondary heater thermostat (N2)	O	0	1	0	integer	0 - open contact 1 - shorted contact
	17	BYPASS	Status of bypass actuator	O	0	1	0	integer	0 - flow Off, 1 - flow On
	18	SAP	SAP external signal	O	0	1	1	integer	0 - SAP, 1 - no SAP
	19	IN1	External signal IN1	O	0	1	0	integer	0 - inactive, 1 - active
	20	IN2	External signal IN2	O	0	1	0	integer	0 - inactive, 1 - active
	21	ECO	External signal ECO (control panel).	O	0	1	0	integer	0 - inactive, 1 - active
	22	N1	Preheater (N1)	O	0	1	0	integer	0 - inactive, 1 - active
	23	N2	Secondary heater (N2)	O	0	1	0	integer	0 - inactive, 1 - active
	24	N2 control	Secondary heater (N2) actuation	O	0	100	0	integer	Control in %
	25	Y1 control	Radiator control (CH1)	O	0	100	0	integer	Control in %
	26	GWC	Ground heat exchanger actuator	O	0	1	0	integer	0 - inactive, 1 - active
	27	SBP1	Exchanger bypass actuator - supply (SBP1)	O	0	100	0	integer	Control in %
	28	SM1	Mixing chamber actuator (SM1)	O	0	100	0	integer	Control in %
	29	Clean	EXCHANGER CLEANING mode.	O	0	1	0	integer	0 - inactive, 1 - active
	33	Mode_OUT	OUTPUT mode	I/O	0	1	0	integer	0 - inactive, 1 - active
	34	Mode_PARTY	IMPREHENSION mode	I/O	0	1	0	integer	0 - inactive, 1 - active
	35	Mode_OVERPRE S	FIREPLACE mode	I/O	0	1	0	integer	0 - inactive, 1 - active
	39	Temp_USER1	Set temperature in gear 1	I/O	8	30	20	integer	Unit:°C
	40	Temp_USER2	Set temperature in gear 2	I/O	8	30	20	integer	Unit:°C
	41	Temp_USER3	Set temperature in gear 3	I/O	8	30	20	integer	Unit:°C
	43	W1	Supply fan, current control	O	0	100	50	integer	Control in %
	44	W2	Exhaust fan, current control	O	0	100	50	integer	Control in %
	45	W1_EN	Permission to operate the supply fan (W1)	O	0	1	1	integer	0 - inactive, 1 - active
	46	W2_EN	Exhaust fan operation permit	O	0	1	1	integer	0 - inactive, 1 - active

			(W2)						
	48	Speed_W1_USER1	W1 speed in gear 1	I/O	dyn. (15)	dyn. (100)	15	integer	Control in %
	49	Speed_W1_USER2	W1 speed in gear 2	I/O	dyn. (15)	dyn. (100)	40	integer	Control in %
	50	Speed_W1_USER3	W1 speed in gear 3	I/O	dyn. (15)	dyn. (100)	100	integer	Control in %
	54	Speed_W2_USER1	W2 speed in gear 1	I/O	dyn. (15)	dyn. (100)	15	integer	Control in %
	55	Speed_W2_USER2	W2 speed in gear 2	I/O	dyn. (15)	dyn. (100)	40	integer	Control in %
	56	Speed_W2_USER3	W2 speed in gear 3	I/O	dyn. (15)	dyn. (100)	100	integer	Control in %
	67	Filter_time_remaining	Time remaining to replace filters	O	0	999	-	integer	Unit: day
	68	Service_time_remaining	Time remaining for general review	O	0	999	-	integer	Unit: day
	69	GWC_Enable	GWC work permit	I/O	0	2	1	integer	0 - closed, 1 - open, 2 - auto
	70	GWC_Winter	Upper threshold for GWC activation - winter	I/O	5	20	8	integer	Unit: °C
	71	GWC_Summer	Lower threshold for switching on GWC - summer	I/O	10	30	18	integer	Unit: °C
	72	SM1_Enable	Activation of the mixing chamber (SM1)	I/O	0	1	0	integer	0 - inactive, 1 - active
	73	SM1_Limit	Opening limit of the mixing chamber actuator (SM1)	I/O	0	100	100	integer	Unit: %
	74	BMS_adress	Device address for BMS communication	O	0	247	1	integer	
	76	BMS_change_en	Changing the settings from the BMS	O	0	1	1	integer	0 - turn off, 1 - turn on
	77	BMS_STOP_en	START_STOP from the BMS	O	0	1	1	integer	0 - turn off, 1 - turn on
	91	P1_value	Measured supply pressure	O	0	4000	0	integer	Unit: Pa
	92	P2_value	Measured exhaust pressure	O	0	4000	0	integer	Unit: Pa
	93	Flow1_value	Measured supply flow	O	0	4000	0	integer	Unit: m3/h
	94	Flow2_value	Measured exhaust flow	O	0	4000	0	integer	Unit: m3/h
	97	Flow1_setPoint	Set flow rate supply	O	0	4000	50	integer	Unit: m3/h
	98	Flow2_setPoint	Exhaust preset flow	O	0	4000	50	integer	Unit: m3/h
	107	Reg_sett	Adjustment mode	I/O	0	3	0	integer	0 - standard, 2 - fixed volume
	108	Flow_W1_USER1	Set flow rate supply - gear 1	I/O	0	4000	100	integer	Unit: m3/h
	109	Flow_W1_USER2	Set flow rate supply - gear 2	I/O	0	4000	200	integer	Unit: m3/h
	111	Flow_W1_USER3	Set flow rate supply - gear 3	I/O	0	4000	1000	integer	Unit: m3/h
	112	Flow_W2_USER1	Set flow rate exhaust - gear 1	I/O	0	4000	100	integer	Unit: m3/h
	113	Flow_W2_USER2	Set flow rate exhaust - gear 2	I/O	0	4000	200	integer	Unit: m3/h
	115	Flow_W2_USER3	Set flow rate exhaust - gear 3	I/O	0	4000	1000	integer	Unit: m3/h
	116	k_fac_W1	Supply fan k-factor	I/O	0	1000	26	float	
	117	k_fac_W2	The k-factor of the exhaust fan	I/O	0	1000	38	float	
	118	PSA_W1	Supply fan start level	I/O	dyn. (15)	dyn. (100)	15	integer	Control in %
	119	PSA_W2	Take-off level of the exhaust fan	I/O	dyn. (15)	dyn. (100)	15	integer	Control in %

Parameter type: O - only Output - read-only parameter, I/O - Input/Output - read and modify allowed.

8. DISMANTLING OF THE EXCHANGER

Dismantling of the exchanger should be carried out with the air handling unit disconnected from the 230V network. Since the exchanger is tightly fitted, the assembly and disassembly of the exchanger should be performed by two people. To remove the exchanger, grab the tape in the place marked in the figure and pull towards you while securing the recuperator from moving.



WARRANTY CARD

- The manufacturer provides a 24-month warranty for the correct operation of the device.
- The warranty is calculated from the date of purchase of the device by the user.
- The warranty is provided and valid upon presentation of the purchase document. The warranty does not cover defects caused by improper operation, maintenance or installation of the device.
- The cost of an unreasonable [service call shall be covered by the complainant](#).
- Service requests should be submitted [via the form](#).
- The company provides maintenance services in Poland.
- The device must be installed where the temperature is always above 5°C.
- The manufacturer waives any liability whatsoever for any damage or injury caused by freezing water in the device.
- Consumable items such as cartridges and nozzles are not subject to warranty.

Serial No.	
Date of sale	Date and signature of seller
Installation date	Date and signature of installer
I declare that I have familiarized myself with the instruction manual of the air handling unit	Date and signature of user

WANAS SERVICE :

E-MAIL: serwis@wanas.pl TEL: +48 535 958 222